

**UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS**

SINGULAR COMPUTING LLC,

Plaintiff,

v.

GOOGLE LLC,

Defendant.

Civil Action No. 1:19-cv-12551-FDS

Hon. F. Dennis Saylor IV

**REPLY IN SUPPORT OF
PLAINTIFF'S MOTION TO COMPEL PRODUCTION OF
SAMPLES OF THE ACCUSED PRODUCTS**

Paul J. Hayes (BBO #227000)
Matthew D. Vella (BBO #660171)
Kevin Gannon (BBO #640931)
Daniel McGonagle (BBO #690084)
Brian M. Seeve (BBO #670455)
PRINCE LOBEL TYE LLP
One International Place, Suite 3700
Boston, MA 02110
Tel: (617) 456-8000
Fax: (617) 456-8100
Email: phayes@princelobel.com
Email: mvella@princelobel.com
Email: kgannon@princelobel.com
Email: dmgonagle@princelobel.com
Email: bseeve@princelobel.com

ATTORNEYS FOR THE PLAINTIFF

Plaintiff, Singular Computing LLC (“Singular”), respectfully submits this Reply in support of its motion to compel the production of samples of the accused TPUv2 and v3 processing boards. Despite numerous meet-and-confers, defendant, Google LLC (“Google”), has refused Singular’s numerous requests for such production. For the reasons set forth below and in Singular’s opening brief, the motion should be granted and Google ordered to produce the requested accused TPUv2 and v3 samples forthwith pursuant to Local Patent Rule 16.6(2)(B)(4) and Rule 26(b)(1).

DISCUSSION

As set forth in Singular’s opening brief, Rule 26(b)(1) permits discovery of non-privileged matter “that is relevant to any party’s claim or defense.” Open. Br. (Dkt. No. 97) at 5. Likewise, Singular pointed out that Rule 26 must be construed broadly” and construed liberally in favor of discovery. *Id.* at 5-6 (citing *Oppenheimer Fund, Inc. v. Sanders*, 437 U.S. 340, 351 (1978) and *SEC v. Sargent*, 229 F.3d 68, 80 (1st Cir. 2000)). Singular demonstrated clearly that, as evidenced by the Amended Complaint and its Infringement Contentions, the TPUv2 and v3 devices are specifically accused of infringing the patents-in-suit. See Open. Br. at 2-4 (reproducing, *inter alia*, images of the TPUv2 and v3 devices). As also set forth on page 2 of its Opening Brief, Singular alleges in paragraph 90 of the Amended Complaint that “[e]ach TPUv2 and TPUv3 Device infringes claim 53 of the ’273 patent . . .” Accordingly, it should be beyond reasonable dispute that the TPUv2 and v3 devices are relevant and should have been produced.

Google’s opposing brief is nothing more than a plethora of excuses regarding why Google believes that it need not produce actual samples of the TPUv2 and v3 devices.¹ First,

¹ Google argues that it offered to make a TPU board available to Singular to test on Google’s Cloud. Opp. at 1. In addition to such testing, however, Singular is entitled to obtain the sample boards pursuant, *inter alia*, Local Patent Rule 16.6(2)(B)(4) for inspection and disassembly.

Google accuses Singular of failing to properly meet-and-confer or identify deficiencies in Google’s proposed alternative to producing samples. Open. Br. at 6-7. As pointed out on page 5 of Singular’s opening brief, however, these excuses are belied by the conduct of Google’s counsel during the Telephonic Status Conference on November 9, 2020. During the Conference, counsel for Singular (Mr. Hayes) reported to the Court that parties had agreed that Google would “provide [Singular] with a couple of samples.” *Id.* at 5. In response, counsel for Google (Mr. Kamber) stated: “I think Mr. Hayes is right in terms of the general status of discovery.” *Id.* Counsel for Google did not challenge Mr. Hayes’ statement that (following meet-and-confers) Google had agreed to produce actual samples. *See id.* Thus, any allegation that Singular has failed to comply with the meet-and-confer requirements should be rejected.

As to Singular’s purported failure to identify alleged deficiencies in Google’s proposal to allow Singular to test the TPU v2 and v3 devices using Google’s Cloud, Singular should not be required to rely solely upon testing performed using Google’s Cloud. Singular is entitled to obtain the samples to inspect and disassemble. Hence, in this District, Local Patent Rule 16.6(d)(4)(B) requires accused infringers to automatically produce samples of the accused products. Moreover, Singular’s request that Google produce actual samples is particularly appropriate in this case. As Google’s corporate Declarant states, “Google does not sell TPUs on their own or as part of other products.” *See Decl. of Roy Bannon (Dkt. No. 106)* at ¶2. Thus, other than by penetrating one of Google’s super-secure datacenters, Singular is unable to obtain sample TPU devices from any other source.²

² Mr. Bannon also states that Google’s TPU chips and boards comprise “commercially sensitive, proprietary information, which Google closely guards to protect its value.” *Id.* at ¶ 4. This statement ignores the fact that the parties negotiated the terms of a Protective Order governing the exchange and use of such information. The Court entered that Order on September 16, 2020. *See Dkt. No. 87.* Thus, Mr. Bannon’s concerns have already been addressed.

Google's second argument for non-production of relevant evidence is that it has offered to "permit inspection" of the accused TPUv2 and v3 devices. Opp. at 7-8. According to Google, "the Court's Scheduling Order does not obligate Google to provide access to samples of the accused products." *Id.* at 7. A Scheduling Order is not typically the place for resolving disputes over what needs to be produced during discovery. Google is required to produce samples pursuant to Local Patent Rule 16.6(d)(4)(B) and Rule 26(b)(1). Google did not request any exemption from that obligation in its proposed Scheduling Order negotiations (or elsewhere).

On its face, Local Rule 16.6(d)(4)(B) provides an exemption where production of the accused device is "not practicable." In its opening brief, Singular pointed out that Google cannot reasonably argue impracticability of production in this case because the TPUv2 and v3 products can be produced easily in a banker's box. *See* Open. Br. at 7. In response, Google argues that Singular is wrong because "large amounts of power, specialized cooling, a dedicated Google host server, and difficult-to-distribute proprietary software" is required to use the TPU devices. *See* Opp. at 7-8. That argument is an obvious red herring as it goes to use of the TPU devices once produced, not the practicality *vel non* of providing samples of the devices. Notably, Google does not dispute that it could easily provide samples of the TPUv2 and v3 in a banker's box.

Google then attempts to switch the burden to Singular to explain why Google's offer to allow Singular "access to TPU services via a [Google] Cloud TPU account" is inadequate. Opp. at 8. As set forth above and in its opening brief, Singular has shown that the TPUv2 and v3 devices are: (1) specifically accused products; (2) therefore, relevant to Singular's infringement claims, and (3) accordingly, discoverable under Rule 26(b)(1). As a result, while it accepts Google's offer to allow Singular to test the accused products using the Google Cloud, Singular should not have to further justify why it prefers to have physical samples of accused products in

addition to such testing. *See, e.g., P & G v. Be Well Mktg.*, 2013 WL 152801, at * 4 (M.D. Pa. Jan. 15, 2013) (ordering production of representative samples of all accused products at defendant's expense); *see also Alloc, Inc. v. Unilin Beheer B.V.*, 2006 WL 757871, at *4 (E.D. Wis. Mar. 24, 2006) (granting motion to compel samples of accused products sold within relevant time period); *Everlight Elecs. Co. Ltd. v. Nichia Corp.*, 2013 WL 6713789, at *2 (E.D. Mich. Dec. 20, 2013) (granting emergency motion to compel defendant to produce all non-produced versions of the 1,000 or more accused products); *Aerocrine AB v. Apieron Inc.*, No. 08-787-LPS, 267 F.R.D. 105, 112-13 (D. Del. 2010) (ordering production of accused system).

Google's final excuse for non-production is that "Singular's allegations and infringement contentions focus on *chip*-level specifics." Opp. at 8-9. Google accuses Singular of "obscur[ing] the chip-focused nature of its infringement theory with selective citation of [Singular's] complaint and infringement contentions." *Id.* at 9. Google's argument should be rejected. Regardless of whether Google attempts to characterize the accused infringing features as "board-level" or "chip-level", Singular's request is that Google be ordered to produce samples of the accused TPU v2 and v3 devices. Moreover, as indicated in the portion of the Amended Complaint reproduced on page 2 of Singular's opening brief, Google's own documents refer to the accused devices as "[t]he TPU board":

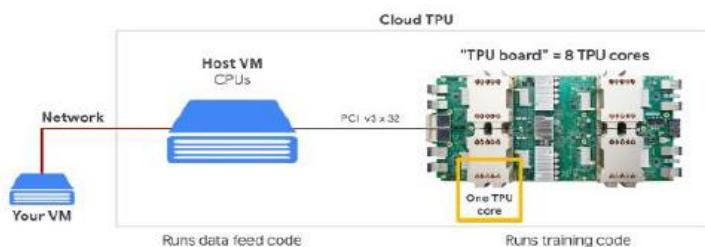
89. A TPUv2 and a TPUv3 Device are examples of a “*device*,” as claimed by the ’273 patent. As published by Google:

TPU versions

Each TPU version defines the specific hardware characteristics of a TPU device. The TPU version defines the architecture for each TPU core, the amount of high-bandwidth memory (HBM) for each TPU core, the interconnects between the cores on each TPU device, and the networking interfaces available for inter-device communication.

Cloud TPU

When you request one “[Cloud TPU v2](#)” on Google Cloud Platform, you get a virtual machine (VM) which has a PCI-attached TPU board. The TPU board has four dual-core TPU chips. Each TPU core features a VPU (Vector Processing Unit) and a 128x128 MXU (Matrix multiply Unit). This “Cloud TPU” is then usually connected through the network to the VM that requested it. So the full picture looks like this:



Irrespective of Google’s board vs. chip semantics, samples of Google’s TPUv2 and v3 boards should be ordered produced as they are used in Google’s datacenters as shown above, i.e. as multi-chip boards.

Google’s chip vs. board argument is also directly contradicted by Singular’s Infringement Contentions that clearly do not limit the claims of infringement to the chip level. For example, Singular contentions clearly and expressly identify the “TPU board” as an infringing device:

INFRINGEMENT EVIDENCE

As demonstrated below, the Accused Products include multiple components that, separately and independently, meet all the requirements of the claimed “device.” For example, a “TPU Board” satisfies these requirements:

When you request one “Cloud TPU v2” on Google Cloud Platform, you get a virtual machine (VM) which has a PCI-attached TPU board. The TPU board has four dual-core TPU chips. Each TPU core features a VPU (Vector Processing Unit) and a 128x128 MXU (Matrix multiply Unit). This “Cloud TPU” is then usually connected through the network to the VM that requested it. So the full picture looks like this:

Illustration: your VM with a network-attached “Cloud TPU” accelerator. The “Cloud TPU” itself is made of a VM with a PCI-attached TPU board with four dual-core TPU chips on it.

<https://codelabs.developers.google.com/codelabs/keras-flowers-convnets/#2>

<https://cloud.google.com/tpu/docs/system-architecture>

See Open. Br. at 4.

CONCLUSION

For the reasons set forth above and in Singular’s opening brief, Google should be ordered to produce samples of the accused TPUv2 and v3 devices forthwith.

Dated: December 10, 2020

Respectfully submitted,

/s/ Paul J. Hayes

Paul J. Hayes (BBO #227000)
Matthew D. Vella (BBO #660171)
Kevin Gannon (BBO #640931)
Daniel McGonagle (BBO #690084)
Brian M. Seeve (BBO #670455)
PRINCE LOBEL TYE LLP
One International Place, Suite 3700
Boston, MA 02110
Tel: (617) 456-8000
Fax: (617) 456-8100
Email: phayes@princelobel.com
Email: mvella@princelobel.com
Email: kgannon@princelobel.com
Email: dmgonagle@princelobel.com
Email: bseeve@princelobel.com

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CERTIFICATE OF SERVICE

I certify that on December 10, 2020, I served this document on defendant, Google LLC, by causing a copy to be sent via electronic mail to its counsel of record via the Court's ECF system.

/s/ Paul J. Hayes